GOVERNMENT OF INDIA
OCEAN DEVELOPMENT
LOK SABHA

UNSTARRED QUESTION NO:4394
ANSWERED ON:18.12.2001
EXPEDITIONS TO ANTARCTICA
AMBATI BRAHMANAIAH

Will the Minister of OCEAN DEVELOPMENT be pleased to state:

(a) whether the Government have restricted expeditions by scientific teams to Antarctica;

(b) if so, the details in this regard and the reasons thereof; and

(c) the details of expeditions undertaken so far and achievements made thereunder?

Answer

THE MINISTER OF HUMAN RESOURCE DEVELOPMENT, MINISTER OF SCIENCE AND TECHNOLOGY AND MINIS OCEAN DEVELOPMENT (DR. MURLI MANOHAR JOSHI)

(a) & (b) No, Sir.

(b) India has so far successfully organized twenty (20) scientific expeditiohs to Antarctica. The first eighteen expeditions were launched from Goa (India) and the nineteenth and twentieth expeditions were launched from Cape Town, south Africa. The scientists were selected from various scientific institutes/organizations/laboratories in the country and have conducted experiments at Antarctica in the fields of Atmospheric science, Meeteorology, earth science & glaciology, Global Change research & Oceanographic studies, Biological/ environmental Science and Marine Living resources, Human Biology/Medicine and psychology and Engineering & Communication etc. The achievements made so far are as under:

? The Indian Antarctic missions have effectively contributed in enhancing India`s prestige sciedntifically which has ensured the protection of our national interests in the global platform of nations in Antarctica by playing a visible and active role in the Antarctic treaty System as a Consultative member.

? Creation of a climatological data base of Antarctica for predictive monsoon and climate modeling. The data is being transmitted on GTS for Antarctic weather prediction.

? Day time aurol studies carried out for the first time by any contry in Antarctica using an indigenously fabricated day-glow photometer.

? Commercial application of the monostatic Doppler acoustic sodar developed in Antarctica for studies on environment parameters in the mainland.

? Creation of a geological database through mapping of hitherto uncovered area of 10,000 sq. km. In the Wohlthat mountains.

? Discovery of rock types which closely resemble the metapelites and anorthosites from the peninsular India which gives insight to Gondwanaland reconstructions.

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? Initial assessment of krill in the Indeian Ocean sector of the Southern Ocean was obtained for scientific base line studies.

? Isolation of low temperature microbes in Antarctica for the degradation of organic waste in low temperature conditions which can have applications in Himalayas.

? Use of medical database collected in Antarctica for understanding man`s adaptive power and functional reserves and its application to cold areas of the country.

? Indian station Maitri was indigenously designed, fabricated and erected at Antarctica by DRDO.

? Low temperature structural engineering materials, toilet incinerators and shelters used in Antarcticca have been successfully

deployed in frontier areas of the country.

? Understanding the windows of long distance communication by successful up-inking of Maitri through E-mail, computer interfaced HF communication and near real time picture transmission.

? The Indian Navy and Air Force have gained oprofessional expertise in snow ice navigation, helocopter operations and long distance communication under adverse climate conditions.

? The Indian Army has acquired unique skills and knowedg related to operational aspects of machineries and life support systems in extreme conditions of Antarctica, which simulates conditions in the high altitude frontier areas. This has created a pool of highly trained manpower, which may be vital for our national defence needs.

? Eight permanent scientific observatories are operating on a continuous basis from Maitri and contributing to Polar Scientific data base.

? Alternative sources of energy such as wind turbines and fuel cells are being experimented at Antarctica keeping in view the Protocol on Environmental Protection to the Antarctic Treaty.

? A vast array of scientific and technological information has been generated through publication of fifteen technical reports, several books and more than 300 scientific papers.